

Amendments to the Claims

Please cancel claims 2-4. Please amend Claims 1 and 5-10. Please add new Claims 11-21. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

1. (Currently Amended) An apparatus for processing a telecommunication signal, comprising:

a first signal processor multi-channel echo canceller for performing a signal processing function echo cancellation upon a telecommunication signal, in accordance with a signal processing parameter logical signal indicating whether echo cancellation is enabled on each channel, and for producing a first processed telecommunication signal the first multi-channel echo canceller including a tone disabler circuit for detecting the presence of an echo canceller disabling tone within each channel and for producing said logical signal in response thereto;

a first controller connected with the first signal processor multi-channel echo canceller for monitoring the value of the signal processing parameter logical signal;

a system controller connected for receiving the telecommunication signal, the system controller connected with the first processor multi-channel echo canceller for transmitting the telecommunication signal to the first processor multi-channel echo canceller and for receiving the value of the signal processing parameter logical signal from the first controller, the system controller further connected for receiving the processed telecommunication signal from the first signal processor multi-channel echo canceller and for transmitting the processed telecommunication signal as a transmitted signal;

a second signal processor for performing the signal processing function upon the telecommunication signal, and for producing a second processed telecommunication signal;

a second controller connected with the second processor for providing a signal processing parameter the logical signal to the second signal processor;

the system controller further configured for transmitting the value of the signal processing parameter logical signal to the second controller, and for replacing the transmitted signal with the second processed signal subsequent to transmitting the value of the signal processing parameter to the second controller.

2. Cancelled.
3. Cancelled.
4. Cancelled.
5. (Currently Amended) The apparatus of claim [[3]] 1 wherein said signal processing parameter includes state variables defining the impulse response for each of the channels in which echo cancellation is enabled.
6. (Currently Amended) The apparatus of claim [[3]] 1 wherein said tone disabler circuit is further responsive to an external control signal from the first controller for independently controlling whether echo cancellation is enabled on each channel.
7. (Currently Amended) A method of operating an echo cancelling system, comprising:
connecting a first multi-channel echo canceller configured to selectively cancel echo in a plurality of telecommunication channels to a multi-channel telecommunication system, the first multi-channel echo canceller further configured to make concurrently available for selection to the plurality of telecommunication channels (i) a plurality of telecommunication signals processed by the first multi-channel echo canceller to produce a plurality of processed telecommunication signals and (ii) a plurality of telecommunication signals unprocessed by the first multi-channel echo canceller;
monitoring a state condition of echo cancellation in each channel and indicating the state condition to a system controller;

transmitting the state condition from the system controller to a redundant multi-channel echo canceller;

disconnecting the first multi-channel echo canceller from the telecommunication system; and

connecting the redundant multi-channel echo canceller to the telecommunication system.

8. (Currently Amended) The method of claim 7 wherein the step of monitoring a state condition comprises monitoring whether echo cancellation is being applied to the processed telecommunication signal or the telecommunication signal unprocessed by the first echo canceller is output on each of the channels.
9. (Currently Amended) An echo cancellation system comprising:
 - a first echo canceller module comprising a first multi-channel echo canceller and a first controller configured for monitoring a state of echo cancellation on each channel, the first echo canceller module configured to make concurrently available for selection to each telecommunication channel (i) a telecommunication signal processed by the first multi-channel echo canceller to produce a processed telecommunication signal and (ii) a telecommunication signal unprocessed by the first multi-channel echo canceller;
 - a second echo canceller module comprising [[an]] a second multi-channel echo canceller and a second controller configured for establishing a state of echo cancellation on each channel, the second echo canceller module configured to make concurrently available for selection to each telecommunication channel (i) a telecommunication signal processed by the second multi-channel echo canceller to produce a processed telecommunication signal and (ii) a telecommunication signal unprocessed by the second multi-channel echo canceller; and
 - a system controller configured for selectively connecting the first and second echo cancellers to a telecommunication network, the system controller further configured for receiving and recording from the first controller an indication of the echo cancellation state on each channel and for transmitting to the second controller the

recorded state indication such that the second multi-channel echo canceller is established in operation in accordance with the recorded state information when it is connected by the system controller to the telecommunication network.

10. (Currently Amended) The echo cancellation system of claim 9 wherein the first controller is configured to monitor the state of echo cancellation as an indicator of whether echo cancellation is being applied to the processed telecommunication signal or the telecommunication signal unprocessed by the first echo canceller is output on each channel.
11. (New) The apparatus of claim 1 wherein the logical signal is a function of a first parameter produced by the first multi-channel echo canceller in response to the presence of an echo canceller disabling tone within the telecommunication signal and a second parameter produced by the first controller.
12. (New) The apparatus of claim 11 wherein the logical signal is produced according to a logical "or" function.
13. (New) An apparatus for processing a telecommunication signal, comprising:
 - a processor configured to perform a signal processing function upon a telecommunication signal and to produce a processed telecommunication signal;
 - a switching unit having simultaneous access to the processed telecommunication signal and the telecommunication signal unprocessed by the signal processing function; and
 - logic in communication with the switching unit and configured to cause the processed telecommunication signal or the telecommunication signal unprocessed by the signal processing function to be output by the switching unit in a selective manner.
14. (New) The apparatus of claim 13 wherein the switching unit is a multiplexing switching unit.

15. (New) The apparatus of claim 13 wherein the processor is an echo canceller.
16. (New) The apparatus of claim 13 further comprising a controller in communication with the logic, the controller producing a first logical signal being used to cause the switching unit to output the processed telecommunication signal or the telecommunication signal unprocessed by the signal processing function.
17. (New) The apparatus of claim 16 wherein any one of or any combination of the switching unit, logic, or controller comprises software instructions or is composed of software instructions.
18. (New) The apparatus of claim 17 wherein the logical signal is a function of the first logical signal and a second logical signal produced by the processor in response to an echo canceller disabling tone within the telecommunication signal.
19. (New) The apparatus of claim 18 wherein the logical signal is produced according to a logical "or" function.
20. (New) The apparatus of claim 13 wherein the processor, switching unit, and logic compose a first echo canceller module, and further comprising:
 - a second echo canceller module; and
 - a system controller coupled to the first and second echo canceller modules, the system controller coordinating operations between the first and second echo canceller modules.
21. (New) The apparatus of claim 20 wherein the system controller passes a parameter between the first and second echo canceller modules the parameter being used to selectively output the processed telecommunication signal or the telecommunication signal unprocessed by the signal processing function.